

CLAIM AMENDMENT

Please amend the claims in accordance with the following listing.

Listing of Claims:

Claim 1 (Currently Amended): A method for improved space allocation in ~~a write anywhere file system, including~~ a file system having a set of storage blocks in a mass storage system, including

~~recording~~ maintaining an active map of said storage blocks not available for writing data;

~~recording a consistency point in said file system including a consistent version of said file system at a previous time, said consistency point including a copy of said active map at said previous time;~~

~~determining~~ determining, for each one of a plurality of equal regions of said storage blocks in said mass storage system, a corresponding value responsive to a number of storage blocks available for writing data in said each one of a plurality of equal regions, in response to said active map and at least one snapshot of the file system, each snapshot of the file system being a said copy of said active map at a previous time; and

~~selecting~~ selecting, based on the values, at least one of said plurality of regions for writing data, in response to said value.

Claim 2 (Currently Amended): A method as in claim 1, wherein said step of selecting comprises setting an allocation threshold and comparing the values to the threshold. ~~corresponding~~

~~value is responsive to a numerical comparison between a number of storage blocks available for writing data in said region and a number of storage blocks available for writing data in said mass storage system.~~

Claim 3 (Currently Amended): A method as in claim 2, further comprising writing the data into the selected at least one of said plurality of regions. ~~1, wherein said active map is a bit map.~~

Claim 4 (Currently Amended): A method as in claim ~~1~~, 3, wherein said step of setting comprises setting the threshold based on ~~corresponding value is responsive to an average percentage~~ of the number of storage blocks available for writing data in the file system. ~~data, in response to said active map and at least one said copy of active map at a previous time.~~

Claim 5 (Currently Amended): A method as in claim ~~1~~, 3, wherein said step of selecting comprises selecting ~~is performed on~~ a first of said plurality of regions with the corresponding value exceeding the threshold. ~~satisfying said value in a linear search of said plurality of regions.~~

Claim 6 (Original): A method as in claim 1, wherein said corresponding value responsive to a number of storage blocks is a binary number.

Claim 7 (Original): A method as in claim 6, wherein said corresponding value determined

for one of said regions is a binary number stored in a data block containing one or more of said binary numbers each corresponding to a unique region.

Claims 8-9 (Canceled).

Claim 10 (Currently Amended): A method as in claim 8, 3, wherein said selecting comprises linearly searching is a first of said plurality of regions to select a first region with the corresponding value exceeding the threshold. ~~satisfying said value in a linear search of said plurality of regions.~~

Claim 11 (Canceled).

Claim 12 (Currently Amended): A method as in claim 8, 3, further including additional selecting when said data requires more blocks than available in the selected at least one of said plurality of equal regions. ~~writing does not contain an entire said collection of file blocks.~~

Claim 13 (Canceled).

Claim 14 (Currently Amended): An apparatus for improved data space allocation ~~in a write anywhere file system,~~ including a file system that has a set of storage blocks in a mass storage ~~system,~~ system; wherein

said file system ~~records~~ maintains an active map of ~~one of said~~ storage blocks of the set of storage blocks that are not available to write data;

~~said file system records a consistency point which includes a consistent version of said file system at a previous time, said consistency point includes a copy of said active map at said previous time;~~

said file system ~~determines~~ determines, for each one of a plurality of equal regions of said storage blocks in said mass storage system, a value that corresponds to said each one of the plurality of equal regions and is responsive to a number of storage blocks available to write data in said each one of the plurality of equal regions, in response to said active map and at least one snapshot of the file system, each snapshot of the file system being a said copy of said active map at a previous time; and

said file system selects for writing data at least one of said plurality of regions in response to said values. ~~value.~~

Claim 15 (Currently Amended): An apparatus as in claim 14, wherein in the course of selecting said file system sets an allocation threshold and compares the values to the threshold. ~~said value that corresponds to said plurality of regions is responsive to a numerical comparison between a number of storage blocks available to write data in said region and a number of storage blocks available to write data in said mass storage system.~~

Claim 16 (Currently Amended): An apparatus as in claim 14, wherein said file system

further writes the data into the selected region. ~~said active map is a bit map.~~

Claim 17 (Currently Amended): An apparatus as in claim ~~14~~, 15, wherein said file system sets the allocation threshold based on ~~value that corresponds to said plurality of regions is responsive to an average~~ percentage of the number of storage blocks available to write data in the file system. ~~data, in response to said active map and at least one said copy of active map at a previous time.~~

Claim 18 (Currently Amended): An apparatus as in claim ~~14~~, 15, wherein said file system selects a first of said plurality of regions with the corresponding value exceeding the threshold using ~~that satisfies said value in~~ a linear search of said plurality of equal regions.

Claims 19-26 (Canceled).

Claim 27 (New): An article of manufacture comprising a memory with program code embedded therein, the program code, when executed by a processor of a file system, directs the processor to cause the file system to perform the steps of any one of claims 1-7, 10, or 12.